

~~44~~ 50. The display device according to claim ~~8~~⁶ wherein said first driver circuit comprises a latch circuit.

~~45~~ 51. The display device according to claim ~~21~~¹⁷ wherein said first driver circuit comprises a latch circuit.

~~46~~ 52. The display device according to claim ~~27~~²¹ wherein said first driver circuit comprises a latch circuit.

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end ~~47~~ 53. The display device according to claim ~~33~~²⁷ wherein said first driver circuit comprises a latch circuit.

~~48~~ 54. The display device according to claim ~~36~~³⁰ wherein said first driver circuit comprises a latch circuit.

~~49~~ 55. The display device according to claim ~~40~~³⁴ wherein said first driver circuit comprises a latch circuit.—

REMARKS

The Official Action mailed January 15, 2002 has been received and its contents carefully noted. Claims 1-26 were pending in the present application. Applicant notes with appreciation the allowance of claims 15-20. Claims 3, 4, 11, 12, and 24-25 have been canceled and claims 1, 6, 8, 13-14, 21-22, and 25-26 have been amended herewith. New claims 27-55 have been added to recite additional protection to which Applicant is entitled. Claims 1-2, 5-10, 13-23 and 26-55 are now pending in the present application.


Initially, Applicants have not received initialed copies of the PTO Form 1449 filed with the Information Disclosure Statement filed on January 31, 2002. Consideration of these references and an initialed copy of the Form 1449 is respectfully requested in the following action.

Applicants have amended the copendency statement of the subject application herewith to remove reference to application Serial Nos. 08/293,201; 07/967,564; and 07/673,821 and thus no longer claim priority under 35 U.S.C. 120 to these applications. Thus, the earliest effective filing date of the subject application is now December 20, 1991, the filing date of Application Serial No. 07/811,063.

The Official Action rejects claims 1-14 and 21-26 as Obvious based on the combination of U.S. Patent 5,028,916 to Ichikawa and U.S. Patent 5,032,883 to Wakai. Independent claims 1, 8, and 21 are amended herewith to recite the feature that the first driver circuit connection to the second signal line comprises an IC chip while the second driver circuit connected to the first signal lines comprises thin film transistors in accordance with one concept of the present invention. In order to maintain a *prima facie* case of obviousness, the references, alone or in combination, must teach each and every claimed feature of the invention. It is respectfully submitted that these features are not disclosed or suggested by either of Ichikawa or Wakai, alone or in combination, and thus that the presently pending claims are in condition for allowance. Favorable reconsideration is requested.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

Please amend the copendency statement inserted before the first sentence of the specification to read:

--This application is a Divisional of Application Serial No. 08/962,600 filed October 31, 1997; which itself is a Divisional of Serial No. 08/231,644 filed April 22, 1994, now U.S. Patent 5,849,601; which itself is a Continuation of Serial No. 08/217,211 filed March 24, 1994, abandoned; which is a Continuation of Serial No. 07/811,063 filed December 20, 1991, abandoned[; which is a Continuation-in-Part of Serial No. 08/293,201 filed August 19, 1994, now U.S. Patent 5,614,732; which is a Continuation of Serial No. 07/967,564 filed October 28, 1992, abandoned; which is a Continuation of Serial No. 07/673,821 filed March 21, 1991, Abandoned].

IN THE CLAIMS:

1. (Amended) A display device comprising;
 - a substrate;
 - a plurality of first signal lines formed over said substrate;
 - a plurality of second signal lines extending across said first signal lines over said substrate;
 - a plurality of switching elements formed at each intersection of said first and second signal lines, each of said switching elements comprising at least one first thin film transistor wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first signal lines and an impurity region of said first thin film transistor is electrically connected to one of said plurality of second signal lines;
 - a smoothing film comprising an organic resin formed over said switching elements;
 - a plurality of pixel electrodes formed over said smoothing film and electrically

connected to said switching elements through contact holes formed in said smoothing film; and
a first driver circuit comprising at least one IC chip [for driving said switching elements] electrically connected to said plurality of second signal lines; and
a second driver circuit electrically connected to said plurality of first signal lines,
wherein said second driver circuit comprises second thin film transistors formed over said
substrate.

5. (Amended) The display device according to claim 1 wherein at least one of said first and second thin film [transistor] transistors has a channel region comprising semi-amorphous silicon.

6. (Amended) The display device according to claim 1 wherein each of said first and second thin film [transistor] transistors has a top-gate structure.

8. (Amended) A display device comprising:
a substrate;
a plurality of first signal lines formed over said substrate;
a plurality of second signal lines extending across said first signal lines
over said substrate;
a plurality of switching elements formed at each intersection of said first and second signal lines, each of said switching elements comprising at least one first thin film transistor, wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first signal lines and an impurity region of said first thin film transistor is electrically connected to one of said plurality of second signal lines;
a smoothing film comprising an organic resin formed over said switching elements;
a plurality of pixel electrodes formed over said smoothing film and electrically connected to said switching elements through contact holes formed in said smoothing film; and
a first driver circuit comprising at least one IC chip [for driving said switching elements] electrically connected to said plurality of second signal lines; and
a second driver circuit electrically connected to said plurality of first signal lines,

wherein said second driver circuit comprises second thin film transistors formed over said substrate,

wherein said [IC chip] first driver circuit is connected to said substrate through a tape automated bonding process.

13. (Amended) The display device according to claim 8 wherein at least one of said first and second thin film [transistor] transistors has a channel region comprising semi-amorphous silicon.

14. (Amended) The display device according to claim 8 wherein each of said first and second thin film [transistor] transistors has a top-gate structure.

21. (Amended) A display device comprising:
a substrate;
a plurality of first signal lines formed over said substrate;
a plurality of second signal lines extending across said first signal lines over said substrate;

a plurality of switching elements formed at each intersection of said first and second signal lines, each of said switching elements comprising at least one first thin film transistor, wherein a gate electrode of said first thin film transistor is electrically connected to one of said plurality of first signal lines and an impurity region of said first thin film transistor is electrically connected to one of said plurality of second signal lines;

a smoothing film comprising an organic resin formed over said switching elements;

a plurality of pixel electrodes formed over said smoothing film and electrically connected to said switching elements through contact holes formed in said smoothing film; and

a first driver circuit comprising at least one IC chip [for driving said switching elements] electrically connected to said plurality of second signal lines; and

a second driver circuit electrically connected to said plurality of first signal lines wherein said second driver circuit comprises second thin film transistors formed over said substrate,

wherein said IC chip is mounted over said substrate.

22. (Amended) The display device according to claim 21 wherein each of said first and second thin film [transistor] transistors has a top-gate structure.

26. (Amended) The display device according to claim 21 wherein at least one of said first and second thin film [transistor] transistors has a channel region comprising semi-amorphous silicon.